

**Date:** October 12, 2009

**Title:** Evaluating Expressions (Section 2.7)

**Objective:** To simplify expressions

**IN:**

a.  $4 + 6(8 \cdot 3) - 10$

b.  $8 \cdot 8 / 2 + 20 \cdot 3$

c.  $(5 - 3) + (20 / 48)$

What is the order in the order of operations?

- 1) Evaluate expressions within parentheses or other grouping symbols
- 2) Evaluate all powers
- 3) Multiply and divide from left to right
- 4) Add and subtract from left to right

## NUMBER TRICKS

Think of a number between 1 and 25.

Add 9 to your number

Multiply the result by 3

Subtract 6 from the current answer

Divide the answer by 3

Now subtract your original number

Check your answer with the people  
next to you.

**WHAT HAPPENED?**

Should everyone have gotten  
the same answer?

Why or why not?

You are "undoing" several operations  
that you were given. Lets go back and  
look at what happened. Can you see the  
operations we had and then took apart?

Draw the following table in your  
Interactive Notebook

Description	Expression

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I will give you operations  
and you will come up  
with an expression. The  
first one we'll do  
together.

Step 1: Multiply 6 times a starting number

Step 2: Add 15

Step 3: Divide your number by 3

Step 4: Subtract your answer from 80

Step 5: Plug in numbers. What is your answer  
if  $x=5$ ? What about  $x= 14$ ?  
What about  $x= -3$ ?

ANSWERS :)

Description	Expression
Starting Value	$X$
Multiply by 6	$6x$
Add 15	$6x+15$
Divide this result by 3	$(6x+15)/3$
Subtract your answer from 80	$80 - (6x+15)/3$

Now it's your turn to practice.

Complete a chart like the one we did before...but don't show anyone!.

**Think of a number**

**Multiply that number by 10**

**Divide your number by 2**

**Subtract 20 from your answer**

**Trade your final answer with your neighbor and figure out what their original number was.**

Write the following equation in your interactive notebook.

$$4 \left( \frac{x+7}{4} + 5 \right) - x + 13$$

In your notebook, write the steps to "describe" this expression.  
This one is done partially for you!

- Pick an number
- Add \_\_\_\_\_
- \_\_\_\_\_ the result by \_\_\_\_\_
- Add \_\_\_\_\_
- \_\_\_\_\_ the answer by \_\_\_\_\_
- \_\_\_\_\_ your original number
- Add \_\_\_\_\_.

Write the following equation in your interactive notebook.

$$7 \left( \frac{x-3}{7} \right) - 3$$

In your notebook, write the steps to "describe" this expression.  
Then, try a number.

- Pick an number
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**What do you notice?**

## **Summary:**

Explain why the order of operations are important.

## **Homework:**

Worksheet  
Order of Operations

## **OUT:**

Come up with your own expression, with at least 4 steps and write down the steps in your own words.